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LENGTH OF THE LIFE-CYCLE OF PSEUDOPYRELLIA CORNICINA FABRICIUS FOR A SINGLE GENERATION, WITH RECORD OF A PARASITE.

BY A. ARSÈNE GIRAULT,

WASHINGTON, D. C.

On the morning of August 20, 1907, at New Richmond, Ohio, I found a single mass of 66 eggs of this common coprophagous species freshly deposited on cowdung in a meadow. These were taken up and placed on fresh droppings in the laboratory. They hatched at about six o'clock on the morning of August 21, and the larvæ at once entered into the dung.

By noon of August 23, the maggots were of some size, and pupation followed two days later, at 6 P. M., August 25, average time. The flies commenced emerging nearly simultaneously at 7 A. M., September 2, and again at about the same hour, September 3, making the average time of emergence, 7 P. M., September 2. The table shows the duration of the different stages:

No. Eggs.	Deposited.	Hatched. Egg Stage.	Pupation. Larval Stage.	Emergence. Pupal Stage.	Length Cycle.	Avg. Effective Temperature, Degrees Fahr.
66	A. M., Aug. 20.	A. M., Aug. 21. ± 1 day.	6 P. M., Aug. 25. 4 days, 12 hours.	7 P. M., Sept. 2. 8 days, 1 hour.	13 days, 13 hours.	31.8°

The eggs when first obtained were placed on fresh cow droppings confined over moist loam soil in a glass jar, covered with cheese cloth. This jar was confined in the laboratory, out of direct sunlight. The adults lived for two weeks after emergence, similarly confined over human excrement, but they did not deposit eggs; they were confined singly, and also in numbers together.

About noon, August 20, adults of the parasitic *Cratospila fuscipennis* Brullé were frequently observed crawling over piles of cow droppings, and a few of them were seen probing their ovipositors into the half-grown maggots of *cornicina*. Afterwards, many were reared from these larvæ brought into the laboratory. They appear to be quite abundant in that locality of Ohio. This is the first recorded parasite.

A few adults of *Sarcophaga* species, many of *Sepsis violacea* Meigen, and a few of another Muscid dipteran, were reared from the droppings infested with *cornicina*.

The determinations of the Diptera were made by Mr. Coquillett, and of the hymenopteron by Mr. Crawford, both of the U. S. National Museum, through the kindness of Dr. L. O. Howard.

ON NORTH AMERICAN AND SOME CUBAN COPELATUS.

BY CHARLES SCHAEFFER,

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Copelatus cælatipennis Aubé, Spec. Gen., VI, p. 382.

• I have taken a specimen in Brownsville, Texas, and Mr. Roberts has a number of specimens from Sanford, Jacksonville and Taylor County, Florida, which are referable to this species. It is near *glyphicus*, but dull, not shining, generally smaller and narrower; apices of elytra feebly attenuate and subacute; thorax in both sexes with very fine scratches over the entire surface; the front tibiæ at base distinctly curved on the upper edge, and the front and middle tarsi of the male much more broadly dilated than in *glyphicus*; the head, thorax, a basal fascia, and generally the sides of elytra, ferruginous, the thorax sometimes darker at middle; base of elytra in both sexes with more or less distinct, short scratches.

Copelatus impressicollis Sharp, Trans. Roy. Dub. Soc. n. s., II, p. 589.

I took a few specimens in the Huachuca Mts., Arizona, which I refer to this species. It is a larger and darker insect than *glyphicus*, with an equal number of discal striæ on each elytron, but slightly shorter at base and apex; front tibiæ of the male are simple and the tarsi much dilated; the thorax has a few scratches at sides in the male, these extend over nearly the entire surface in the female. One female has on the elytral intervals a number of short, impressed, longitudinal lines and between the ninth and tenth striæ and the tenth and the submarginal striæ an additional, but abbreviated stria of somewhat irregular outline. The other female shows scarcely any impressed lines on the disk, but has them at sides; the additional striæ are also present but much shorter and still more irregular.